CLAIMS

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1	1. (original) A scheduler for a plurality of packet storage devices, the scheduler				
2	comprising:				
3	a memory device adapted to store a look-up table (LUT) that maps an input address to a LUT				
4	output, wherein:				
5	the input address corresponds to current status of one or more of the packet storage				
6	devices; and				
7	the LUT output identifies a next packet storage device to select for service and whether				
8	the next packet storage device has data available for service;				
9	a latch adapted to store and forward the LUT output; and				
10	an extractor adapted to receive the forwarded LUT output from the latch and to generate (1) a				
11	latch enable (LE) control signal that enables the latch to forward the LUT output and (2) a read enable				
12	(RE) control signal that identifies which one or more packet storage devices are to be serviced.				
1	2. (original) The invention of claim 1, wherein:				
2	the packet storage devices are FIFOs;				
3	the memory device is a ROM; and				
4	the extractor comprises a finite state machine (FSM) implemented using combinatorial feedback				
5	logic.				
1	3. (original) The invention of claim 1, wherein the extractor comprises an FSM having an				
2	IDLE state and an EXTRACT state, wherein:				
3	when the FSM is in the IDLE state and a currently selected packet storage device has no data				
4	available for service, the extractor sets the LE control signal to enable the latch to forward the LUT				
5	output; and				
6	when the FSM is in the EXTRACT state and service of the currently selected packet storage				
7	device is completed, the extractor sets the LE control signal to enable the latch to forward the LUT				
8	output.				
1	4. (original) The invention of claim 3, wherein:				
2	when the FSM is in the IDLE state and at least one packet storage device has data available for				
3	service, the FSM transitions to the EXTRACT state; and				
4	when the FSM is in the EXTRACT state and no packet storage device has data available for				
5	service, the FSM transitions to the IDLE state.				

1	5. (original) The invention of claim 1, wherein the current status of the one or more packe			
2	storage devices comprises an indication of whether each packet storage device has data available for			
3	service and an indication of which packet storage device is currently selected for service.			
1	6. (currently amended) The invention of claim 5, wherein a packet storage device has data			
2	available for service when the packet storage device currently stores more than a specified non-zero			
3	threshold number of data packets.			
1	7. (original) The invention of claim 1, wherein the extractor is further adapted to receive			
2	service status information from the packet storage devices.			
1	8. (original) The invention of claim 7, wherein the service status information comprises an			
2	indication of completion of service of the currently selected package storage device.			
	2 () 1) The important of all in the manner device is adopted to be			
1	9. (original) The invention of claim 1, wherein the memory device is adapted to be			
2	reconfigured to replace an existing LUT with a new LUT in order to change a scheduling algorithm for			
3	the packet storage devices.			
1	10. (original) The invention of claim 9, wherein the scheduling algorithm can be changed			
2	without having to change any hardware design for the scheduler.			
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1	11. (original) A method for scheduling service for a plurality of packet storage devices, the			
2	method comprising:			
3	accessing a look-up table (LUT) with an input address to retrieve a LUT output, wherein:			
4	the input address corresponds to current status of one or more of the packet storage			
5	devices; and			
6	the LUT output identifies a next packet storage device to select for service and whether			
7	the next packet storage device has data available for service;			
8	storing and forwarding the LUT output based on a received latch enable (LE) control signal;			
9	generating the LE control signal based on the forwarded LUT output; and			
10	generating a read enable (RE) control signal that identifies which one or more packet storage			
11	devices are to be serviced, based on the forwarded LUT output.			

Serial No. 10/809,180 -3- L03-048 (1054.028)

(original) The invention of claim 11, wherein:

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2	the packet storage devices are FIFOs;			
3	the LUT is stored in a ROM; and			
4	the LE and RE control signals are generated using a finite state machine (FSM) implemented			
5	using combinatorial feedback logic.			
1	13. (original) The invention of claim 11, wherein the LE and RE control signals are			
2	generated using an FSM having an IDLE state and an EXTRACT state, wherein:			
3	when the FSM is in the IDLE state and a currently selected packet storage device has no data			
4	available for service, the LE control signal is set to forward the LUT output; and			
5	when the FSM is in the EXTRACT state and service of the currently selected packet storage			
6	device is completed, the LE control signal is set to forward the LUT output.			
1	· 14. (original) The invention of claim 13, wherein:			
2	when the FSM is in the IDLE state and at least one packet storage device has data available for			
3	service, the FSM transitions to the EXTRACT state; and			
4	when the FSM is in the EXTRACT state and no packet storage device has data available for			
5	service, the FSM transitions to the IDLE state.			
1	15. (original) The invention of claim 11, wherein the current status of the one or more			
2	packet storage devices comprises an indication of whether each packet storage device has data available			
3	for service and an indication of which packet storage device is currently selected for service.			
1	16. (currently amended) The invention of claim 15, wherein a packet storage device has data			
2	available for service when the packet storage device currently stores more than a specified non-zero			
3	threshold number of data packets.			
1	17. (original) The invention of claim 11, wherein the LE and RE control signals are			
2	generated based on service status information from the packet storage devices.			
1	18 (original) The invention of claim 17, wherein the service status information comprises			

Serial No. 10/809,180 -4- L03-048 (1054.028)

an indication of completion of service of the currently selected package storage device.

2

1	19. (original) The invention of claim 11, wherein the LUT is stored in a memory device				
2	adapted to be reconfigured to replace an existing LUT with a new LUT in order to change a scheduling				
3	algorithm for the packet storage devices.				
1	20. (original) The invention of claim 19, wherein the scheduling algorithm can be changed				
2	without having to change design of any hardware used to implement the method.				
1	21. (currently amended) A scheduler for a plurality of packet storage devices, wherein the				
2	scheduler comprises a look-up table (LUT) that identifies a next packet storage device to select for				
3	service based on current status of one or more of the packet storage devices, wherein the current status of				
4	the one or more packet storage devices comprises an indication of whether each packet storage device				
5	has data available for service and an indication of which packet storage device is currently selected for				
6	service.				
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1	22. (original) The invention of claim 21, further comprising:				
2	a latch adapted to store and forward the identification of the next packet storage device to select				
3	for service based on a latch enable (LE) control signal; and				
4	a finite state machine (FSM) adapted to (1) forward the identification of the next packet storage				
5	device to the plurality of packet storage devices and (2) generate the LE control signal, based on service				
6	status information from the packet storage devices.				
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1	23. (original) The invention of claim 22, wherein the FSM has an IDLE state and an				
2	EXTRACT state, wherein:				
3	when the FSM is in the IDLE state and a currently selected packet storage device has no data				
4	available for service, the LE control signal is set to enable the latch to forward a LUT output received				
5	from the LUT; and				
6	when the FSM is in the EXTRACT state and service of the currently selected packet storage				
7	device is completed, the LE control signal is set to enable the latch to forward the LUT output.				
1	24. (original) The invention of claim 23, wherein:				
2	when the FSM is in the IDLE state and at least one packet storage device has data available for				
3	service, the FSM transitions to the EXTRACT state; and				
4	when the FSM is in the EXTRACT state and no packet storage device has data available for				
5	service, the FSM transitions to the IDLE state.				

1	25.	(original) The invention of claim 23, wherein the service status information comprises		
2	an indication of completion of service of a currently selected package storage device.			
-	26.	(original) The invention of claim 25, wherein the indication of completion of service is		
1 2		ket (EOP) signal indicating that a data packet has been extracted from the currently selected		
2 3	package storage device.			
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1	27.	(canceled)		
1	28.	(currently amended) The invention of claim [[27]] 21, wherein a packet storage device		
2	has data available for service when the packet storage device currently stores more than a specified non-			
3	zero threshold number of data packets.			
1	29.	(original) The invention of claim 21, wherein an existing LUT can be replaced with a		
2	new LUT in o	order to change a scheduling algorithm for the packet storage devices.		
1	30.	(original) The invention of claim 29, wherein the scheduling algorithm can be changed		
2	without having to change any hardware design for the scheduler.			
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1	31.	(new) The invention of claim 1, wherein the read enable (RE) control signal is adapted		
2	to simultaneo	usly identify that two or more packet storage devices are to be serviced.		
1	32.	(new) The invention of claim 11, wherein the read enable (RE) control signal is adapted		
2	to simultaneo	usly identify that two or more packet storage devices are to be serviced.		
1	33.	(new) The invention of claim 21, wherein the scheduler is adapted to simultaneously		

identify that two or more packet storage devices are to be serviced.

2